



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 66 TO FACILITY OPERATING LICENSE NO. DPR-24
AND AMENDMENT NO. 71 TO FACILITY OPERATING LICENSE NO. DPR-27
WISCONSIN ELECTRIC POWER COMPANY
POINT BEACH NUCLEAR PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-266 AND 50-301

Introduction

On April 19, 1980, a loss of decay heat removal (DHR) capability occurred at Davis-Besse Unit 1. This was the subject of IE Information Notice 80-20 dated May 8, 1980. This incident also prompted issuance of IE Bulletin 80-12 transmitted to Wisconsin Electric Power Company (licensee) on May 12, 1980 which required licensees of pressurized water reactors (PWRs) to conduct reviews of the susceptibility of decay heat removal capability for their facilities and implement immediate procedural and administrative controls where needed to reduce the likelihood of such an event.

The licensee responded to the above bulletin by letter dated June 5, 1980 outlining their procedural changes and administrative controls effected to achieve redundancy of DHR capability in all modes of operation.

Subsequent to the licensee's response, the NRC staff transmitted to licensees of all PWRs by letter dated June 11, 1980, a request that they amend the Technical Specifications (TS) for their facilities to ensure redundancy of DHR capability in all modes of operation. Attached to the staff's letter were sample standard TS.

The licensee responded to this request by letter dated October 14, 1980. By letter dated August 14, 1981, the staff transmitted their review of the licensee's response to this issue and again requested that the licensee amend the Point Beach Unit 1 and 2 TS. The licensee responded to the staff's request by letter dated November 16, 1981 as modified by letter dated May 3, 1982.

Discussion and Evaluation

The intent of IE Bulletin 80-12 was to improve nuclear power plant safety by reducing the likelihood of losing DHR capability in operating PWRs. PWRs are most susceptible to losing DHR capability when their steam generators or other diverse means of removing decay heat are not readily available. Such conditions often occur when the plants are in a refueling or cold shutdown mode, and during which time concurrent maintenance activities are being performed.

There is a need to assure that all reasonable means have been taken to provide redundant or diverse means of DHR during all modes of operation. (Note: A redundant means could be provided by having DHR Train A AND Train B operable; a diverse means could be provided by having either DHR Train A OR Train B operable AND a steam generator available for DHR purposes.) There is also need to assure that all reasonable means have been taken to preclude the loss of DHR capability due to common mode failures during all modes of operation.

The licensee's November 16, 1981 letter requested changes to the Point Beach Units 1 and 2 TS which the licensee believed would satisfy the staff's concerns regarding redundancy of DHR capability in operational modes 4 and 5. In their August 14, 1981 letter to the licensee the NRC staff had concluded that the existing Point Beach Units 1 and 2 TS adequately addressed this issue in all but operational modes 4 and 5. The staff further evaluated the licensee's administrative controls as adequately providing interim assurance of redundancy of DHR capability until final resolution of this issue.

The NRC staff reviewed the licensee's proposed TS and found them unacceptable for reasons identified in the staff's January 22, 1981 letter. In addition to concerns relating to the licensee's proposed TS, the staff identified two additional concerns. One of these related to checking operability of a component prior to taking its redundant component out of service to conduct repairs or tests. Specifically, this concern related to accumulator check valve leakage tests.

The other additional staff concerns related to the ability of a single residual heat removal (RHR) loop to provide sufficient heat removal capacity immediately following shutdown from extended operation at full power. Inability of a single RHR loop to adequately remove reactor decay heat immediately following shutdown would mean that initially either two steam generators and their associated reactor coolant loops or both RHR loops and one steam generator and its associated reactor coolant loop would be required to meet the redundancy criteria.

The licensee modified their proposed TS to address the NRC staff concerns by letter dated May 3, 1982. The staff has reviewed the licensee's proposed TS, as modified, and finds that they adequately address the staff concerns regarding redundancy of DHR capability in operational modes 4 and 5. Additionally, they address the NRC staff's concerns regarding accumulator check valve leakage testing and the ability of a single RHR loop to provide adequate decay heat removal capacity following extended operation at full power. However, the licensee's May 3, 1982 submittal included additional proposed Technical Specifications (TS) which the staff feels do not meet the intent of providing redundancy for decay heat removal. Proposed TS 15.3.1.A.3.a(5) allows one of the two operable means of decay heat removal to be temporarily out of service to meet surveillance requirements.

The proposed TS was not part of the licensee's November 16, 1981 submittal. Nor does the basis provided adequately justify this proposed TS. The removal from service of the associated RHR loop to perform surveillance has no

associated time limit. Thus, if two RHR loops were the redundant methods of decay heat removal being used, removing one from service for surveillance testing would allow for a temporary loss of all decay heat removal capability given a single failure of the operating RHR loop. For this reason, and because reliance on a reactor coolant loop, reactor coolant pump and associated steam generator is allowed as a method of decay heat removal in both modes 4 and 5, the staff feels that adequate flexibility would exist to perform RHR system surveillance testing without issuance of this proposed TS. Therefore, the staff is not approving this proposed change.

In light of their more recent analysis of the ability of a single RHR loop to provide adequate decay heat removal capability, the licensee proposed modification of the table in the basis of TS 15.3.3 to include the predicted decay heat vs. time values in the American National Standard ANS 5.1, 1979 "Decay Heat Power in Light Water Reactors". The staff finds this acceptable as clarification to support the ability of a single RHR loop to adequately remove reactor decay heat.

Environmental Consideration

We have determined that the amendments do not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendments involve an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of these amendments.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendments do not involve a significant increase in the probability or consequences of an accident previously evaluated, do not create the possibility of an accident of a type different from any evaluated previously, and do not involve a significant reduction in a margin of safety, the amendments do not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Date: November 8, 1982

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